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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/806,750	03/22/2004	Todd Peterson	11032-044-999	2424
20583	7590	04/19/2005	EXAMINER	
JONES DAY 222 EAST 41ST ST NEW YORK, NY 10017			PRITCHETT, JOSHUA L	
			ART UNIT	PAPER NUMBER
			2872	

DATE MAILED: 04/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/806,750	Applicant(s) PETERSON ET AL. <span style="float: right;">(Signature)</span>	
	Examiner Joshua L. Pritchett	Art Unit 2872	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 24 January 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-8, 14-16, 18, 19 and 32-35 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8, 14-16, 18, 19 and 32-35 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

This action is in response to Amendment filed January 24, 2005. Claims 1 and 32 have been amended and claims 9-13 have been cancelled as requested by the applicant.

#### ***Drawings***

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the small volume device must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will

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be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 4-6, 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tateiwa (US 5,444,529).

Regarding claim 1, Tateiwa teaches a means for determination of a dynamic property (the property of distribution of particles, col. 1 lines 46-47) of a fluid volume (col. 1 lines 44-45), comprising a means for determining the distribution or location or both (Fig. 2) of at least one light scattering particle (2) in the fluid volume (3) by means for detecting (7) light scattering from the last least one particle (6). Tateiwa lacks specific reference to an array chip, array plate or an array slide. However it is very well known in the art to use an array chip, array plate or array slide for the purpose of inspecting the devices [i.e. the fluid contained in the devices] for unwanted particles or viewing multiple samples.

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Regarding claim 4, Tateiwa teaches probes are present in the fluid volume and the particle distribution is indicative of the distribution of the probes in the fluid volume (col. 2 lines 11-27).

Regarding claim 5, Tateiwa teaches the distribution of probes is on a solid phase surface (1).

Regarding claim 6, Tateiwa teaches the dynamic property is uniformity of drying on a solid surface (col. 2 lines 11-27).

Regarding claims 14-16, Tateiwa teaches a plurality of features and has deposited on each feature a volume of 10pL to 2 microliters (3).

Claims 2, 3, 7, 8, 18, 32 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tateiwa in view of Webb (US 4,385,830).

Regarding claims 2 and 32, Tateiwa teaches the invention as claimed but lacks reference to flow rate. Webb teaches a measured dynamic fluid property of flow rate (Fig. 7). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have the Tateiwa invention measure flow rate as taught by Webb for the purpose of determining the effects of flow rate on particles suspended in a fluid volume.

Regarding claim 3, Tateiwa teaches the invention as claimed but lacks reference to measuring particle distribution. Webb teaches measuring particle distribution in a fluid volume (Fig. 8; col. 14 lines 3-7). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have the Tateiwa's invention include the means for measuring

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particle distribution as taught by Webb for the purpose of determining the concentration gradients of particles suspended in a fluid volume.

Regarding claim 7, Tateiwa teaches the invention as claimed but lacks reference to measuring flow pattern. Webb teaches measuring flow pattern in a device or portion of a device (16), the device being an article of manufacture including one or more channels or reservoirs (col. 5 line 46). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have the Tateiwas invention include the means for measuring flow pattern as taught by Webb for the purpose of determining the impact of flow patterns on particles suspended in a fluid volume.

Regarding claim 8, Tateiwa teaches the invention as claimed but lacks reference to measuring fluid mixing. Webb teaches measuring fluid mixing in one or more portions of the device or through the entire device (16, 24 and 26), the portions being selected from a group consisting of a mixing chamber, a port, a flow channel (col. 5 line 46), a pump, a valve and a flow channel intersection. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have the Tateiwas invention include the means for measuring fluid mixing as taught by Webb for the purpose of determining the concentration gradients of particles suspended in a fluid volume.

Regarding claims 18 and 33, Tateiwa teaches the invention as claimed but lacks reference to one particle comprising a plurality of distinguishable particles. Webb teaches a particle comprising a plurality of distinguishable particles (col. 4 lines 58-68). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have the

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Tateiwa's invention includes the particle comprised of a plurality of distinguishable particles as taught by Webb for the purpose of determining the composition of the particle.

Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tateiwa in view of Webb as applied to claim 18 above, and further in view of Dittrich (US 3,738,759).

Tateiwa in combination with Webb teaches the invention as claimed but lacks reference to the use of fluids from two different sources. Dittrich teaches the use of mixing fluids from two different sources (16 and 24). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have the Tateiwa invention include two different fluid sources of Dittrich for the purpose of observing how particles behave at the interface of the two fluids.

Claims 34 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tateiwa in view of Webb as applied to claim 32 above, and further in view of McDowell (US 5,905,568).

Tateiwa in combination with Webb teaches the invention as claimed but lacks reference to the use of flow tracers and a plurality of portions. McDowell teaches the use of a plurality of portions for flow rates (16). McDowell further teaches the use of flow tracers to detect flow (Fig. 4). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have the Tateiwa invention include the flow tracers and plurality of portions of McDowell for the purpose of accurately and precisely measuring the flow from different areas to determine the forces exerted on the particles at different locations in the fluid volume.

***Response to Arguments***

Applicant's arguments filed January 24, 2005 have been fully considered but they are not persuasive.

On page 6 of Amendment applicant argues that the basis for motivation to include the claimed small volume devices in the Tateiwa invention have no basis for motivation in the cited reference. The applicant is reminded that the motivation to combine the invention does not have to come explicitly from the prior art of record but may arise from the knowledge of one of ordinary skill in the art. In this case one of ordinary skill in the art would recognize the advantages the use of array chips, array plates and array slides and be motivated to add one of these small volume devices to the Tateiwa invention for the purpose of inspecting the devices for any unwanted particles.

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after



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the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua L. Pritchett whose telephone number is 571-272-2318. The examiner can normally be reached on Monday - Friday 7:00 - 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew A. Dunn can be reached on 571-272-2312. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JLP *JP*

  
**DREW A. DUNN**  
**SUPERVISORY PATENT EXAMINER**